Chapter 5

Nuclear, Biological, and Chemical (NBC) Defense Readiness and Training

5.1 INTRODUCTION

The Services' vision for Joint NBC Defense Management is: *America's Armed Forces trained and ready for the 21st Century, protecting our nation and its forces against nuclear, biological and chemical threats*. The Joint NBC Defense Program builds on the successes of each Service to develop a viable Joint orientation to NBC defense capabilities, which include Joint requirements documents; Joint doctrine and tactics, techniques, and procedures; Joint modeling, simulation, and wargaming; and Joint professional training.

5.2 NBC DEFENSE DOCTRINE

Joint Doctrine. Joint Pub 3-11, *Joint Doctrine for Nuclear, Biological, and Chemical (NBC) Defense*, provides guidelines for the planning and execution of NBC defensive operations. Its focus is on the NBC threat, national policy, and considerations peculiar to the preparation and conduct of NBC defense. These considerations include principles of theater NBC defense, logistics support, medical support, training, and readiness.

Multi-National Doctrine. The U.S. Army Nuclear and Chemical Agency (USANCA) has been delegated the DoD representative for international standardization of NBC operational matters. USANCA participates in the following North Atlantic Treaty Organization (NATO) groups:

- NBC Defense Interservice Working Party (NBCWP) under the Military Agency for Standardization,
- Land Group 7 (LG. 7)—NBC Equipment—under the NATO Army Armaments Group (NAAG),
- Working Group 2 (LG. 7)—Low Level Radiation in Military Environments,
- Challenge Subgroup (LG. 7)—Chemical/Biological Toxicity Challenge Levels,
- Technical Subgroup (LG. 7)—Nuclear Weapons Defense, and
- ATP-45 (NBCWP) NBC Warning/Reporting.

The USANCA also has been delegated as the representative in the ABCA Quadripartite Alliance (US, UK, Canada, Australia) in the Quadripartite Working Group (QWG) for NBC Defense. In that group, USANCA also participates in the RADIAC Information Exchange Group (IEG). The US Army Chemical School (USACMLS) participates with USANCA to incorporate NBC group agreements in revising existing manuals.

The USACMLS has been delegated as the representative at the NATO Training Group (Joint Services Subgroup) in addition to providing representation and subject matter expertise to support USANCA at NATO/QWG meetings as required. This includes consultation to coordinate the official US position on NBC defense issues prior to international meetings.

5.2.1 Joint NBC Defense Doctrine Program Management

The NBC defense program management strategy described in Chapter 1 provides the mechanism to assist the Joint Staff in the further development of the Joint NBC defense doctrine program. The Joint Service Integration Group (JSIG) coordinates with the Services to ensure the program is realistic and meets the needs of the Joint community.

5.2.2 Joint NBC Defense Doctrine Development Program

The US Army Chemical School (USACMLS) has the task from the Joint Staff to revise Joint Pub 3-11, *Joint Doctrine for Nuclear, Biological, and Chemical (NBC) Defense*. The title of the Joint Pub will be changed to Operations in an NBC Environment. This change reflects an increased emphasis on sustaining operations in a contaminated environment. An initial draft was staffed with all Services, comments consolidated, and recommendations for changes recorded. A second draft was published and distributed to the combatant Commands, Services, and the Joint Staff for comment in March 1999.

The JSIG is working with the Air Land Sea Application (ALSA) Center and the Joint Warfighting Center to lead the effort in the development of multi-service NBC defense doctrine. Currently ALSA is revising FM 3-4-1, *Multi-Service Procedures for NBC Defense of Fixed Sites, Ports, and Airfields*, in coordination with all the Services.

The USACMLS also provided exercise and training support to CINCs and various organizations throughout the year. Subject matter experts were provided to the Army War College for their Crisis Action Exercises, to the Atlantic Command (ACOM) for Joint Task Force (JTF) training, and to Exercise Silent Breeze II for briefing support.

The U.S. Army Medical Department Center and School (USAMEDDC&S) has been tasked to revise Joint Publication 4-02, *Doctrine for Health Service Support in Joint Operations*. The revision contains additional information on the medical aspects of NBC defense. USAMEDDC&S is assisting OSACMLS in revising the medical support aspects of Joint Pub 3-11.

5.2.3 Army Medical Doctrine Development Program

Multi-Service Doctrine. The FY98 effort consisted of initiatives to develop new Army Medical Department (AMEDD) NBC defense doctrine products, provide AMEDD input to other service NBC doctrine publications, and provide input to multinational medical NBC procedures. The initial draft of the FM 8-284, *Treatment of Biological Warfare Agent*

Causalities is completed. The draft has been distributed for review. Development of a new manual, FM 8-283, *Treatment of Nuclear Warfare Causalities and Low-Level Radiation Exposure* will be initiated when FM 8-284 is in the advanced stages of completion. These two manuals will be developed as multiservice publications. FM 8-10-7, *Health Service Support in a Nuclear, Biological, and Chemical Environment* is being revised and reviewed as a multiservice publication. Doctrine for nuclear, biological, and chemical-environment (NBC-E) will be developed and incorporated into current and new manuals as the technology allows. The area of NBC-E is not new, but emphases is being increased on the effects of long-term exposure to low-levels (subclinical levels) of NBC agents, industrial radiation, biological, and chemical hazards.

Multi-National Doctrine. The Office of The Surgeon General (DASG-HCO) has been designated the head of Delegation for the NBC Medical Working Group for standardization of NBC Medical operational matters. OTSG, DASG-HCO participates in the NATO groups shown in Table 5-1. The AMEDD participated in numerous NATO medical NBC procedural product reviews, resulting in several NATO Standardization Agreements (STANAGs) being updated. Further, the AMEDD participated in a Quadripartite Working Group to develop and update additional Quadripartite Standardization Agreements (QSTAGs), which are medical NBC procedural products. STANAGs and QSTAGs are reviewed for integration of these agreements into Army-specific doctrine literature products as well as multiservice medical doctrine products for which the AMEDD is the proponent.

Table 5-1. Selected NATO Groups

- NBC Defense Working Group
- NBC Medical Working Group – Head of Delegation
- Land Group 7 (LG.7) – Joint NBC Defense
- Working Group 2 (LG.7) – Low Level Radiation in Military Environments
- Challenge Subgroup (LG.7) – Chemical/Biological Toxicity Challenge Levels
- General Medical Working Party, Aeromedical Working Group
- Research Technology Area/Human Factors Medical (RTA/HFM) Panel NB&C Medical Subgroups.

5.2.4 Air Force Medical Doctrine Development Program

HQ USAF/SGXR has been participating with the Army in development of a doctrine field manual, *Treatment of Biological Warfare Agent Casualties*. A CONOPS was completed that standardized wartime medical contamination control operations. During FY98 SGXR has also participated in the review of numerous NATO Standardization Agreements that were updated during the year.

5.2.5 Marine Corps Doctrine

The Marine Corps continues to systematically review multi-service NBC doctrine. The Marine Corps has reviewed a number of NATO Standardization Agreements as well as multi-service doctrine with both the U.S. Army and the U.S. Navy. The Marine Corps has completed a new Marine Corps Warfighting Publication (MCWP) 3-37, *Marine Air Ground Task Force (MAGTF) NBC Defense*.

5.3 STANDARDS/PROFICIENCY AND CURRENCY

Each service establishes standards of proficiency and currency for NBC defense training.

5.3.1 Army

Army Regulation 350-41, *Training in Units*, establishes Army standards for proficiency for NBC defense training. NBC defense training is conducted at schools and in units. The USACMLS is responsible to train and sustain Chemical Corps soldiers and leaders and provide task/condition/standard limits, suggested training products, and oversight in the areas of NBC matters. Although the U.S. Army Chemical School (USACMLS) is neither designated nor resourced to be the DoD Executive Agent for joint NBC defense training, it has initiated several actions to counter NBC threats, including:

(1) assisting CINCs, Major Commands, and their staffs in assessing and providing reference materials regarding the NBC threat and recommending actions to reduce the NBC threat in their areas of operations;
(2) providing broad-based joint NBC defense doctrine and joint doctrine development support;
(3) introducing and upgrading instructional aids and training support material for war colleges and command and staff colleges for all services; and
(4) developing, evaluating, and fielding advanced instructional capabilities for both resident and nonresident instruction;
(5) conducting the Joint Senior Leader Training Course – A Focus on Weapons of Mass Destruction, intended to provide leaders from all Services with an understanding of joint NBC defense operations, training, readiness, threat, doctrine, and capabilities.

The initiatives have not been completed due to lack of resources.

Individual Training. At the initial training level, NBC defense tasks are taught to students wearing Mission Oriented Protective Posture (MOPP) gear during Basic Soldier Training and Warrant Officer Candidate Training to satisfy Initial Entry Training Requirements. Common core qualification is achieved from NBC tasks training during Officer (basic and advanced) and Warrant Officer (basic) training. NCOs train on leader NBC skills during their NCO development courses. Other Officer and NCO courses require training in NBC as a condition that effects the performance of branch specific tasks. At the company level each unit has an NBC NCO specialist and at the battalion or higher level most units have an NBC Officer and Senior NCO.

Unit Training. The Army is constantly challenged to improve its training of NBC battlefield hazards by integrating such training into unit mission training as well as individual and leader training. It is required that the NBC protective mask be worn during weapons qualification training at least twice a year, depending on the unit category within the Standards in Training

Commission (STRAC). Additionally, essential Army civilians are trained in NBC survival skills. Because of today's battlefield complexities, the Army takes a systems approach to its training. NBC tasks for individuals are published in Soldiers' Training Publications and trained in the Army School System. Sustainment training occurs in the unit. NBC collective tasks are published in Army Training and Exercise Plan (ARTEP) Mission Training Plans. The highest level of NBC training recognizes NBC as a battlefield condition and units train to execute their Mission-Essential Task List (METL) while under NBC conditions.

Mobilization Training. In February 1998, the 20th Chemical Detachment (BIDS) deployed in support of Operation Desert Thunder. Additionally, the 310th Chemical Company (BIDS) was mobilized from the Army Reserve for mobilization training during March-June 1998 to support Operation Desert Thunder.

The USACMLS Move to Fort Leonard Wood. Construction of facilities at Fort Leonard Wood is on schedule. Completion and availability dates are shown as follows.

Facility	Construction Completion	Available for Occupancy
CDTF Admin Building	30 September 1998	15 November 1998
CDTF Training Building	7 January 1999	12 February 1999
Chemical Applied Training Facility	13 October 1998	8 January 1999
General Instruction Facility	17 May 1999	21 July 1999
Unaccompanied Enlisted Housing	17 May 1999	2 July 1999

In preparation for the move, the first individuals departed Fort McClellan in October 1998 and will be assigned to the CDTF at Fort Leonard Wood. A second large group left during February through March 1999. These include the combat developers, the training developers, and portions of the Chemical Brigade staff. The training departments will move to Fort Leonard Wood during May to August 1999 upon completion of scheduled training at Fort McClellan.

The USACMLS expects to stand up the 3d Chemical Brigade at Fort Leonard Wood during April through May 1999. This brigade will be responsible for all training activities at the Chemical School after the move is complete. Additionally, the brigade will provide command and control for the 82d Chemical Battalion (OSUT), the 84th Chemical Battalion, and the 58th Transportation Battalion.

All personnel and equipment that belong to the USACMLS must be on the way to Fort Leonard Wood by 30 September 1999.

Medical Training. The U.S. Army Medical Department Center and School (AMEDDC&S) conducts Medical NBC Defense Professional Training at Fort Sam Houston, Texas consisting of four Soldier/Noncommissioned Officer (NCO) courses, two Officer courses, and various related professional short courses.

AMEDD sergeants attend a 17 week Basic NCO Course (BNCOC) where NCOs with the MOS 91B (combat medic) are trained to be medical platoon treatment/evacuation team leaders. AMEDD BNCOC provides the NCO with the technical and tactical skills to conduct field medical operations and to treat, manage, and evacuate battlefield casualties. The NBC Sciences Branch provides classes and practical exercises in the skills necessary to perform battlefield medical operations in an NBC environment, to decontaminate, manage and treat contaminated casualties, and to train non-medical soldiers in casualty decontamination procedures. In FY98, more than 350 junior NCOs were trained in this course.

All AMEDD officers begin training in the Officer Basic Course (OBC). This 11 week course prepares them with the fundamental knowledge to conduct medical operations in an NBC environment and to advise company, battalion, and medical treatment facility commanders about NBC contamination avoidance and the medical implication of NBC exposures. This experience includes 39 hours of classroom instruction and 12 hours of field training exercises, which emphasize confidence building, hands-on equipment training, and management of NBC contaminated casualties. There are six courses annually for active Army components and five courses for Reserve/National Guard components. In FY98, over 1,550 officers were trained in these courses.

The AMEDD Officer Advance Course (OAC) is designed to provide advanced military education for officers with 3–9 years of military service. This course provides the AMEDD officer with skills necessary for command, leadership, and staff positions of greater responsibility in both peacetime and times of hostility. The AMEDD officer participates in a group of 12–18 officers led by one experienced officer. The small group leader facilitates discussions and assignments with emphasis on sharing individual experiences for the collective good of the group. NBC subject matter expertise is provided by the NBC Sciences Branch, with emphasis on the supervision of medical operations in NBC-contaminated environments during a capstone, Corps level, field training exercise, Medical Unit Staffs in Operations. In FY98, over 490 officers were trained in this course.

The Medical Management of Chemical and Biological Casualties Course (MCBC) provides DoD personnel, primarily physicians, physician assistants, and nurses with a working knowledge of the potential threat of chemical and biological weapons and the status and scope of medical defense strategies. It combines classroom instruction and field experience to establish essential skills, instill confidence, and define limitations in therapeutic modalities with each type of medical setting. The course also provides instruction on the use of specialized equipment and skills required for safe, long distance evacuation. First-hand experience in triage, decontamination, and medical operations on the integrated battlefield is stressed. This course is offered fours times annually at the U.S. Army Medical Research Institute of Chemical Defense (USAMRICD), Aberdeen Proving Ground, Maryland and the U.S. Army Medical Research Institute of Infectious Diseases (USAMRIID), Ft. Detrick, Maryland in addition to the three day exportable course provided on-site for individual units or posts.

In FY 98, 38 courses were taught consisting of:

- Three (3) MCBC in house courses
- Three (3) Field Management of Chemical and Biological Casualties Courses (FCBC)
- Five (5) Train the Trainer Courses
- One (1) Video Teleconference (VTC)
- Twenty-one (21) MCBC offsite courses
- Five (5) FCBC offsite courses.

2,525 students attended these courses. The student breakdown is as follows: Army (2,108), Navy (201), Air Force (124), Civilians (67), and Foreign Nation Students (25).

The MCBC course was taught twice at the AMEDD Officer's Advanced Course and will be taught four times during the next fiscal year. A two-hour block of instruction on depleted uranium was added to the MCBC in-house course. The in-house MCBC course has doubled in size from 70 students to approximately 140 students. The offsite courses are now being replaced with distance learning VTC, satellite broadcasting, and CD-ROM. USAMRICD conducted five "train-the-trainer" courses in FY98, training twenty Army, Navy, and Reserve personnel to be utilized as instructors for offsite courses.

USAMRIID's Operational Medicine Division, in conjunction with USAMRIID scientists, CDC experts, and nationally known leaders in Public Health, have just completed a 12-hour, fully accredited satellite distance learning program on Medical Defense against Biological Warfare and Terrorism. This educational outreach program, funded by the Office of the Army Surgeon General, trained 18,167 healthcare professionals at 583 down-link sites in CONUS and overseas from 22–24 September 1998. Army, Air Force, Navy/Marine Corps, Veterans Administration, and Public Health Service medical care providers were trained, as were personnel in Canada, the United Kingdom, Germany, Saudi Arabia, and several other overseas sites. This live interactive educational experience provided thousands of healthcare personnel with the information needed to prevent, diagnose, and treat biological casualties in both military warfare and civilian bioterrorism scenarios. The program was broadcast from the FDA's television studio in Gaithersburg, Maryland to sites around the world. The broadcast was taped and then re-broadcasted the weekend of 3 and 4 October, 1998 to reach primarily Reserve and National Guard medical personnel. The cost effectiveness of this type of education is staggering: the program cost $69.29 per healthcare professional, or a cost of $5.77 per CME credit hour, compared to the traditional way of training students at Fort Detrick, with a cost per student of approximately $1,000. Further decreases in the cost per provider educated are possible with wider dissemination of the program in future years. This type of education also is an excellent way for providers to update their skills on a regular basis without ever leaving their home station or community.

Specific nuclear training is addressed through the Medical Effects of Ionizing Radiation (MEIR) course. This one-week course is designed to provide military health care providers and operational planners with background material relating to human injury and combat effectiveness in a nuclear weapons detonation or accident scenario. The course introduces the physical

principles of nuclear weapons and ionizing radiation and the effects of nuclear weapons. The medical problems associated with radiation, including external exposure and internal contamination are investigated. This course is offered twice annually at the Armed Forces Radiobiology Research Institute (AFRRI), Bethesda, Maryland along with shorter "road" courses provided on-site for individual units or installations. In FY98, 502 Army, 137 Navy, 161 Air Force, and 51 Non-DoD Civilian personnel trained in this course, for a total of 851 personnel.

The focus of the Medical NBC Readiness Course (formerly the Medical NBC Professional Filler (PROFIS) Course) is on medical NBC battlefield operations, humanitarian operations, standards, and the threat. The intent of this course is to inform and educate military medical and preventive medicine professionals about the medical response in the event of an intentional NBC attack. The course addresses response to, and new standards for, peacetime operations in areas contaminated with low levels of radioactive material or industrial chemicals. This course is sponsored by the US Army Office of the Surgeon General and hosted by the AMEDDC&S. The course is open to Department of Defense preventive medicine officers and professionals assigned to deployable units or positions who are directly responsible for NBC consequence management (*i.e.*, military environmental scientists, health physicists, preventive medicine physicians, environmental engineers, medical operations officers, *etc*.)

The Medical NBC Defense Training and Education Network provides distributed learning and digital references via the Internet. The focus of this web site is to improve the overall awareness of medical NBC issues and to enhance sustainment training capabilities. The "home page" [http://www.nbc-med.org/] provides doctrinal publications that are inter-connected by keywords to allow for quick searches of topics. For training purposes, the user can download these documents. In addition to the internal search capability, this site has a state of the art internet search engine that allows the user to explore all electronic information in support of medical NBC training. Training using multimedia technology is also being developed for use with this network. Currently, the Management of Chemical Warfare Injuries interactive training package and Medical Management of Biological Casualties Manual is accessible through the site with nuclear training to be added as they become available. Future improvements to this network include: expanding connectivity to other military, governmental and private agencies; scheduling interactive training and education events; and adding related video, video conferences, and training seminars to enhance training.

The Center for Health Promotion and Preventive Medicine sponsors a *Transportation of Biomedical Materials (TBM)* course and a *Refresher TBM* course. The purpose of these courses is to certify personnel to package infectious samples and specimens for transport IAW with requirements of 49 CFR Transportation, Air Force Regulation 71-4, and 42 CFR Centers for Disease Control. The course is interactive and practical exercises are used throughout. The course objectives are as follows:

- Identify and classify infectious substances, diagnostic specimens, biological products, and regulated medical waste (Department of Transportation).
- Use of hazardous materials table (49 CFR Part 172, 101) to prepare these items for transport.

- Package infectious substances, diagnostic specimens, biological products, and medical waste.

5.3.2 Air Force

Air Force policy is to provide initial and annual refresher training to personnel in or deployable to NBC high threat areas (HTAs). The Air Force standards of proficiency are based on two international standardization agreements: NATO Standardization Agreement 2150 (NATO Standards of Proficiency for NBC Defense) and Air Standardization Coordinating Committee (ASCC) Air Standard 84/8 (Initial, Continuation and Unit NBC Standards). Both agreements are implemented through Air Force Instruction 32-4001, *Disaster Preparedness Planning and Operations*. The Air Force ensures proficiencies and currency of NBC warfare defense training through classroom training, unit level training, and exercises. NBC Defense Training (NBCDT) is required only for military personnel and emergency essential civilians in or deployable to NBC threat areas. Major Commands (MAJCOMs), the Air Reserve Component, and Direct Reporting Units may tailor their NBCDT programs to meet their specific mission requirements. The subjects presented in the classroom follow the three principles of NBC defense (avoidance, protection, and decontamination) as identified in Joint Pub 3-11. Unit level training follows the classroom training on wartime mission critical tasks. Supervisors train personnel to complete mission critical tasks while the workers are wearing their full complement of individual protective equipment. Exercises are used for training and evaluation purposes. Instructors at base level receive their professional training through Air Force courses at Ft. McClellan, Alabama.

Individual Training. There are two types of individual training. The first is general equipment and procedures training that enables personnel to recognize and protect themselves and others from NBC hazards. The second is individual proficiency training that enables personnel to perform their wartime tasks in a NBC-contaminated environment. Detailed training comes with assignment to a threat area or to a deployable unit. Personnel receive the following NBC defense training courses:

AUDIENCE[1,2]	TYPICAL INITIAL INSTRUCTION TIME	INITIAL (FREQUENCY)	REFRESHER (FREQUENCY)	REMARKS
Low threat	6 hours	Within 90 days of assignment to mobility positions or 90 days prior to PCSing to a CB HTA.	Annual show of competency or as directed by MAJCOM.	Allow extra time for quantitative fit testing (QNFT)/ confidence exercise and CCA training.
Medium threat	6 hours	Within 90 days of arrival	Within 90 days of arrival	See Note 2
High threat	6 hours	Within 90 days prior to PCSing to HTA.	Within 30 days of arrival - topics should only include theater specific procedures and QNFT.	See Note 2

NOTES:
1. NBC Defense Training is required for military personnel and emergency essential civilians in or deployable to chemical-biological medium and high threat areas.
2. Initial training is required if there has been a break of 36 months or more in NBC defense training.

NBC refresher training is at the discretion of the MAJCOMs, with the majority opting for annual refresher training through classroom training and exercise participation. Individual NBC proficiency training occurs through on-the-job-training and exercise participation. In addition, aircrews are required to conduct a one-time flight while wearing chemical defensive equipment.

Unit Training. Units in or deployable to NBC threat areas must conduct the following training:

CB Threat Area	MINIMUM EXERCISE REQUIREMENTS
Low	**Annually** - Conduct attack response exercise implementing the base OPlan 32-1 and other contingency plans (*i.e.*, NBC, terrorist, or conventional attack). **AND** - Conduct an attack response exercise for units' mobility commitments based upon the threat at deployment locations.
Medium	**Semiannually** - Conduct attack response exercise implementing the base OPlan 32-1, BSP, and other contingency plans (*i.e.*, NBC, terrorist, or conventional attack). One exercise can be satisfied by a tabletop exercise. **AND** - Conduct attack response exercise for unit mobility commitments based on the threat at deployment locations. One exercise can be satisfied by a tabletop exercise.
High	**Semiannually** - Conduct attack response exercises implementing the base OPlan 32-1, BSP, and other contingency plans.

Air Force major commands have reported significant increases over the last three years in the number of people receiving equipment and procedures training as well as the number of hours spent for that training.

Medical Training Initiatives. Following the Air Force Medical Service (AFMS) NBC Warfare Defense Training Workshop in 1998, several training initiatives were prepared to meet gaps in Air Force chemical and biological medical defense training. Computer-based training tools for the AFMS re-engineered unit type codes, such as: (1) Patient Decontamination Teams, (2) Chemically Hardened Air Transportable Hospital, (3) Preventive and Aerospace Medicine (PAM) team training, (4) Bioenvironmental Engineering NBC team training, (5) PACAF AFMEDPAC 2000, (6) Continuing Medical Readiness NBC training, (7) NBC CD-ROM Toolboxes, (8) ACC/Force Protection Battlelab – Bio Agent detection training, and (9) NBC Defense Leadership Skills training were identified for contractor development. The Army (funded by the AF) is the OPR for two other initiatives: Medical Management of Chemical Casualties and the NBC CD-ROMs. Care providers who have not been afforded the opportunity to attend the Army MCBC Course will receive an instructor based course on medical management of chemical and biological casualties training at their units. Overseas locations have priority over CONUS bases for this initiative. In addition, identified medical UTC teams will receive medical reference materials developed by the US Army and civilian contractors for training.

5.3.3 Navy

Navy CBR-D training is conducted in two phases: individual and unit training. Individual training consists of attendance at formal school courses and completion of basic and advanced CBR Defense Personnel Qualification (PQS) training. Navy personnel also conduct periodic unit CBR Defense training and pre-deployment unit training exercises.

Individual Training. The Navy provides initial entry-level CBR defense training to all officers and enlisted personnel in the accession programs. Enlisted personnel receive three hours of training (two hours in the classroom; one hour in the lab) focused on the use of personal protection equipment and survival skills, including a CBR-D "confidence" chamber exposure. Officers receive two hours of class time focused on personal protection equipment and survival skills. After reporting to designated units, Navy personnel also are required to complete basic and advanced CBR-D PQS training.

Officer and Enlisted Personnel assigned to ship and shore billets requiring CBR-D expertise receive additional CBR-D related courses. These courses include the Disaster Preparedness Specialist Course and the CBR-D Operations and Training Specialist Course conducted at the U.S. Army Chemical School. Additional CBR-D training is covered in the Repair Party Leader Courses conducted at various Fleet Training Centers. Officers receive additional CBR-D related training at the Damage Control Assistant Course, the Shipboard Department Head Course, the Prospective Executive Officer Course, and the Prospective Commanding Officer Course held at the Naval Education and Training Center Newport, RI.

Navy medical providers attend the Management of Chemical and Biological Casualties Course at the U.S. Army Medical Research Institute for Chemical Defense, Aberdeen Proving Grounds, Maryland and the U.S. Army Medical Research Institute of Infectious Diseases, Ft. Detrick, Maryland.

Unit Training. Proficiency training is conducted at the unit level by Navy instructors who are graduates of the CBR-D Operations and Training Specialist Course conducted at the U.S. Army Chemical School. Navy units conduct basic, intermediate, and advanced training exercises as part of the Training and Readiness Cycle prior to deployment. During the basic training phase, CBR-D training exercises are overseen by the appropriate Type Commander and may involve additional unit training by CBR-D specialists from an Afloat Training Group (ATG). During the intermediate and advanced phases of the training cycle, combat readiness is reinforced through Composite Training Unit Exercises (COMPTUEXs) and Fleet Exercises (FLEETEXs).

5.3.4 Marine Corps

The Marine Corps' NBC training focuses on the ability to conduct operations throughout the battlespace with particular emphasis on amphibious deployment, littoral, and air/ground operations. The Marine Corps views NBC as an environment, similar to daylight/darkness and cold/heat.

Training requirements are derived from the Force Commander's Mission Essential Task Lists, Joint Universal Lessons Learned, Marine Corps Lessons Learned, Mission Need Statements, and Fleet Operational Needs Statements. Once validated, the training requirements are introduced into the Systems Approach to Training (SAT) Process.

One of the results of the SAT process is the development of training tasks and standards that will fulfill the training requirements. These task lists and standards are incorporated into Individual Training Standards (ITSs) for individual Marines and Mission Performance Standards (MPS) for Marine units. These ITSs and MPSs are published as Marine Corps Orders for standardization and compliance throughout the Marine Corps.

The Marine Corps conduct training in two categories: Individual Training based on ITSs and Collective (unit) Training based on MPSs. Figure 5-1 shows the individual NBC training provided to all Marines.

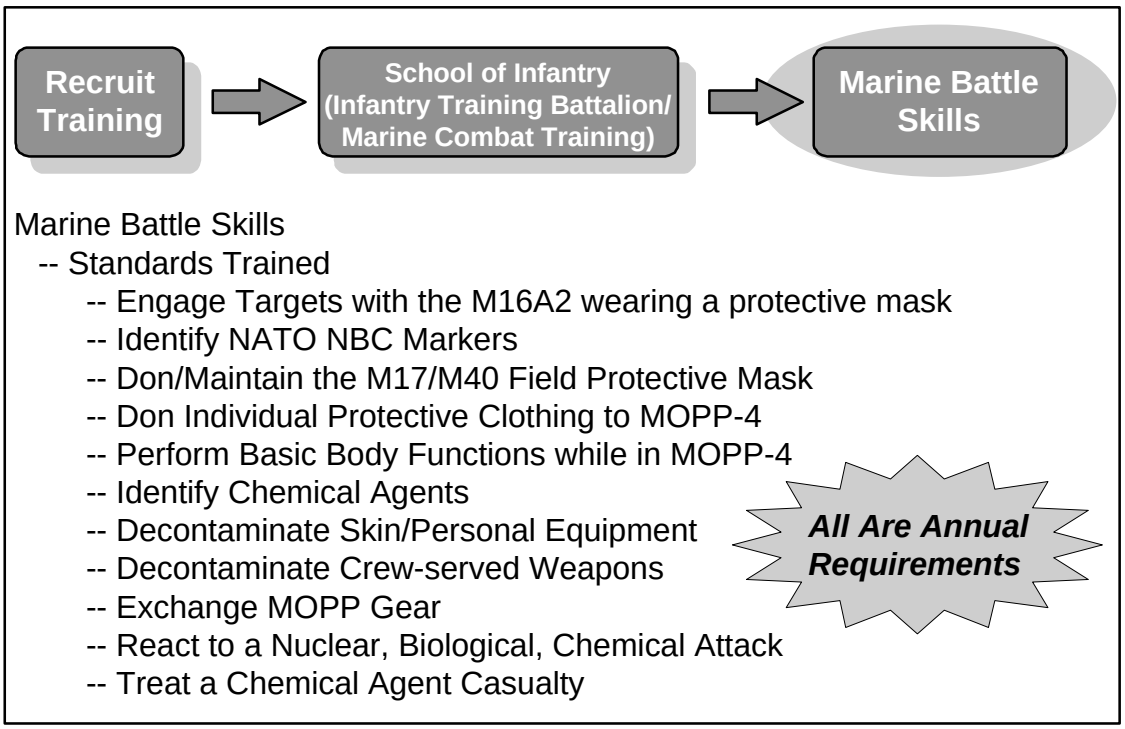

Figure 5-1. USMC Individual NBC Training

Individual Training. Enlisted Marine entry level training begins at recruit training or "Boot Camp" where Marines are introduced to the field protective mask and the gas chamber. All enlisted Marines then proceed to the School of Infantry (SOI). The training focus is surviving and functioning in an NBC environment. Training transitions from a classroom/academic environment to practical application/field environment to provide students more hands-on experience.

Once Marines reach their units they begin the Marine Battle Skills Training program. Marine Battle Skills is a set of tasks which all Marines are required to be proficient in and are

evaluated annually. Marine Battle Skills NBC training focuses on providing Marines the capability to survive as well as function in an NBC environment.

Unit Training. Unit level (or collective) training includes classroom and field training and is included in unit training exercises and plans. (See figure 5-2.) Units are also required to meet very specific training standards. These requirements take the form of Mission Performance Standards (MPSs). Each type of unit in the Marine Corps has a set of MPSs assigned to it. These MPSs are published as 3500 Series Marine Corps Orders.

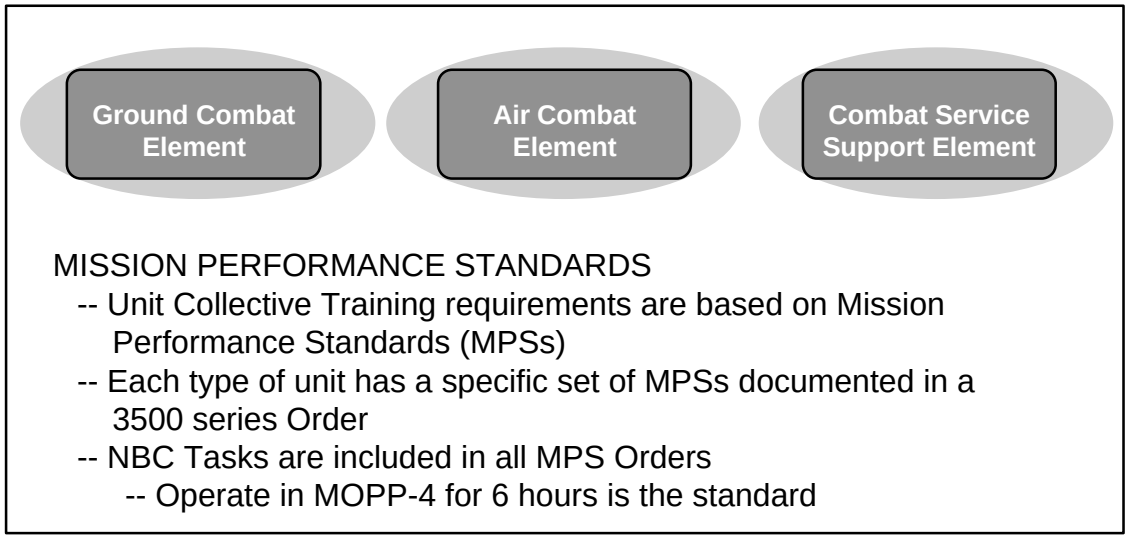

Figure 5-2. USMC Collective Training, NBC Requirements

Each MPS Order includes NBC Tasks which the unit must accomplish. However, each set of requirements varies from unit to unit. For example, a Tank Battalion must be able to utilize the vehicle's NBC filtration system, decontaminate tanks, and operate tanks under NBC conditions. An Infantry Battalion on the other hand has no requirement to decontaminate tanks, but does have to decontaminate crew served weapons. NBC evaluations are conducted annually for all Marine Corps units. Those units that are part of the Marine Corps' Unit Deployment Program (UDP) and designated Marine Expeditionary Units (MEUs) are required to undergo an NBC evaluation prior to deployment.

5.4 NBC DEFENSE PROFESSIONAL TRAINING

Public Law 103-160 requires all Services to conduct NBC defense professional training at the same location. Currently, all Service training is co-located at the United States Army Chemical School at Fort McClellan, Alabama. Fort McClellan is scheduled for closure in FY99 and new training facilities are planned to open at Fort Leonard Wood, Missouri. Each Service conducts their training with their own Service instructors. The experts who graduate from the Service's technical training and the Army's Chemical Defense Training Facility become instructors for their Service's unit training. The Defense Weapons School attached to the Field Command, DTRA at Kirtland AFB, New Mexico, conducts a nuclear hazards training course.

5.4.1 Joint NBC Defense Professional Training

The JSIG has established a Joint Training Council (JTC) comprised of Service detachment representatives at the USACMLS to discuss issues pertaining to facilities and range scheduling and any other training issues that impact the ability of the Services to conduct effective professional training.

Information exchanges between the Services were facilitated by the JSIG and plans put in place to review future doctrine and new equipment training plans. Discussion concerning a Joint instructor pool was shelved due to unique training requirements each Service possesses. The Army plans to consolidate common and shared (Chemical, Military Police, and Engineer) training. During consolidation training sessions, students from professional development courses conducted by all three schools will start at the same time, straining classroom and billeting resources.

Joint Professional Military Education, Phases I and II, currently contains no NBC defense considerations or requirements. It is essential that officers of all Services assigned to joint staffs understand the NBC threat, are familiar with U.S. capabilities to detect and mitigate the threat, and comprehend their staff roles and responsibilities in dealing with NBC issues. The JSIG, along with the Services, Joint Staff, and CINCs will address these important shortfalls and requirements in the coming year.

Within the joint medical arena, the US Army Medical Department sponsors the Medical Management of Chemical and Biological Casualties (MCBC) course, which provides training to DoD personnel. Additional information on this course can be found in Section 5.3.1. Based on guidance contained in DoD Directive 6025.3, *Clinical Quality Management Program in the Military Health Services* (signed 20 July 1995), health care providers are directed to receive certification for assignments during military operations. This certification includes NBC defense training and provider courses where applicable. The medical commander will review certification annually. In addition, on 20 December 1995 the DoD completed DoD Instruction 1322.24, *Military Medical Readiness Skill Training*, which implements policy, assigns responsibility, and prescribes procedures for developing and sustaining comprehensive systems for providing, assessing, and monitoring military medical skills training essential for all military personnel, health care personnel, and medical units. NBC defense training, to include chemical and biological warfare defense measures and medical specialty training such as casualty management, are specifically articulated in the instruction.

All Medical Nuclear Casualty Training has been consolidated under the Armed Forces Radiobiology Research Institute in Bethesda, Maryland, where radiobiology education is made available in a Tri-Service format.

5.4.2 Army NBC Defense Professional Training

US Army NBC Defense Professional Training presently takes place at Fort McClellan, Alabama. In June 1999, this training will begin moving to Fort Leonard Wood, Missouri.

Training consists of three enlisted/noncommissioned officer courses and two officer courses. At initial entry, enlisted soldiers receive training in chemical and biological agent characteristics and hazards, smoke and decontamination operations, chemical and radiological survey procedures, and individual protective clothing and equipment. This program provides 18 weeks of intensive training, culminating in live/toxic agent training in the Chemical Defense Training Facility. Toxic agent training is an integral, mandatory component of all professional courses. In October 1998, the initial entry enlisted training program was extended to 19 weeks to accommodate Army Values training.

Initial Entry Training
19 Weeks

Standards Trained:

- Radiological Survey
- Radiological Defense
- Chemical and Biological Agent Characteristics and Hazards
- Chemical and Biological Defense
- Decontamination Operations
- Smoke Operations
- Individual NBC Protection
- Chemical Defense Training Facility

Figure 5-3. U.S. Army Entry Training

Chemical Corps sergeants attend the 15 week Chemical Basic Noncommissioned Officer Course (BNCOC) where they are trained to be an NBC company squad leader and a non-chemical company or battalion NBC NCO. Chemical BNCOC provides the NCO with the technical and tactical skills needed to advise company/battalion commanders in NBC operations and procedures, to train non-chemical soldiers in NBC avoidance, decontamination, and protective measures and to lead smoke/decontamination squads.

Chemical Corps staff sergeants and sergeants first class attend the 13 week Chemical Advanced NCO Course (ANCOC) where they are trained to be an NBC platoon sergeant, an NBC NCO at brigade level, and an NBC NCO in a division or Corps level NBC element. During training they receive advanced technical operations, hazard estimates, logistics and maintenance management, combined arms operations, smoke and flame support, and training management.

Chemical Corps lieutenants attend a 19-week officer basic course, 10-weeks during mobilization. Reserve Component officers must attend the resident course. The Maneuver Support Center (MANSCEN), to be established at Fort Leonard Wood, will instruct the 3-weeks of common lieutenant training from the Chemical, Engineer, and Military Police schools. The Chemical Officer Basic Course (COBC) prepares lieutenants to serve as a Chemical Corps platoon leader or as a non-chemical battalion chemical staff officer/assistant operations officer. This course provides them with a fundamental knowledge of NBC agent characteristics and hazards, NBC recon (non-FOX), decon, and smoke operations, NBC staff functions, individual and unit tactical operations, and biological detection operations. This course includes classroom

instruction, hands-on equipment training, and field exercises. Completion of live/toxic agent training is a prerequisite for graduation.

Chemical Corps captains attend the 20-week officer advanced course where they are trained to serve as the commander of a Chemical Company and as NBC staff officers at the brigade and division level. Instruction focuses on leadership, Army operations, hazard prediction, planning and conducting NBC reconnaissance, decontamination, biological detection operations, and smoke and flame operations in support of maneuver units. Additionally, officers receive training in nuclear target analysis/vulnerability analysis, operational radiological safety, and environmental management. Extensive use is made of computer simulations to reinforce the application of NBC assets in support of tactical operations. The duration of this course will be cut to 18 weeks, beginning in October 1998. In the MANSCEN configuration due to begin in March 1999 at Fort Leonard Wood, Missouri, the Chemical Officer will share training with Military Police and Engineer Officers in Common Training, Shared Tactical Training, and Battle Lab exercises.

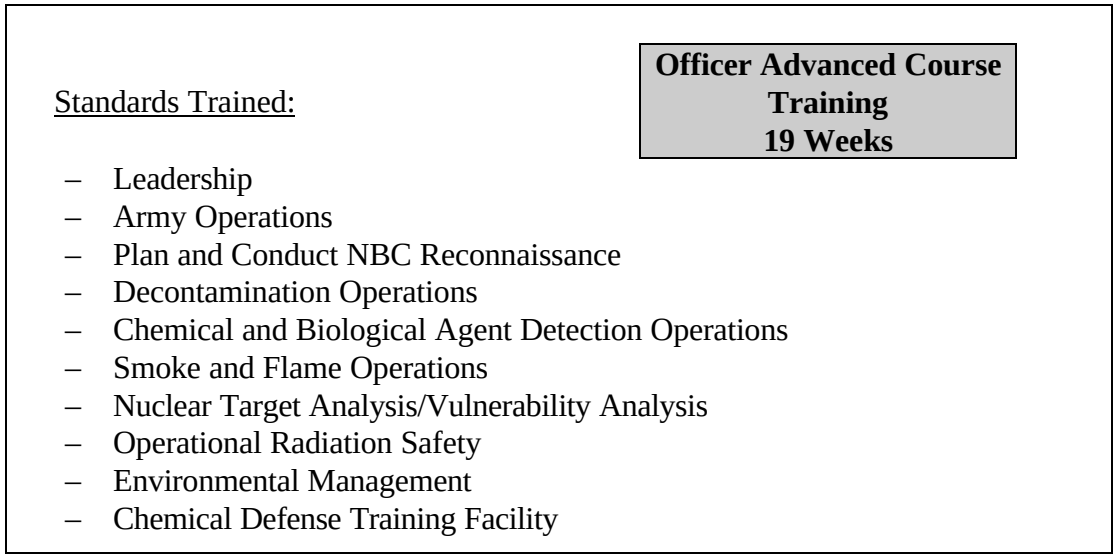

Figure 5-4. U.S. Army Officer Advanced Training

Specialized professional training is conducted in stand-alone courses attended by DoD, Allied, and international students. These courses include:

NBC Reconnaissance Operations (FOX)	(5 weeks)
Radiological Safety (Installation level)	(3 weeks)
Chemical Weapons Inspector/Escort (OSIA)	(1 week)
Chemical Weapons Convention Module II	(6 weeks)
Decon Procedures (Non-US) (GE, UK, NE)	(1 week)
RADIAC Calibrator Custodian	(1 week)
Biological Detection Specialist (BIDS)	(5 weeks)
Master Fox Scout	(2 weeks)
Long Range Biological Standoff Detection	(2 weeks)

5.4.3 Air Force NBC Defense Professional Training

The Air Force training detachment at Ft. McClellan offers six separate in-residence courses designed to enhance the NBC proficiency of primary-duty AF Civil Engineer Readiness Flight personnel. These courses fulfill the differing needs of the total force, including Active Duty, Air National Guard, and Air Force Reserve. Further, the Air Force administers a career development correspondence course and two mobile courses in airbase operability and NBC cell operations.

Each course contains a wide range of materials covering critical aspects of Readiness Flight operations in situations ranging from peacetime, military operations other than war, through wartime. The following is a synopsis of the NBC aspects of these courses.

Training for personnel being assigned primary readiness duties includes comprehensive coverage of agent characteristics and hazards (to include determination of incapacitation/ lethality levels); nuclear weapons effects and other specific hazards associated with ionizing radiation; NBC detection and decontamination; contamination control and avoidance techniques; plotting and reporting procedures; detailed NBC persistency and duration of hazard calculations; the inter-relationship between NBC defense and other passive defense activities (*e.g.*, camouflage, concealment, and deception, (CCD), dispersal, and hardening, *etc*.); and systematic analysis procedures for assessing the hazard and providing credible advice to commanders.

Air Force learning theory emphasizes hands-on training, and the school makes extensive use of available training ranges and equipment. The school includes Chemical Defense Training Facility (CDTF) live agent training in five of six in-residence courses. Training is provided on every major piece of equipment available in the field today, including state-of-the-art items currently being fielded.

The CE Readiness Flight Officer and 7-level Craftsman courses provide flight leaders and mid-level NCOs with the background and technical information that is necessary for effective management of the CE Readiness Flight and contingency response operations.

Readiness is the key to successful Air Force operations. Consequently, the various aspects of CE Readiness Flight operations, including NBC defense and depleted uranium awareness, are also topics of instruction at briefings for Air War College, Air Force Institute of Technology, or Joint Senior Leaders Course.

The School of Aerospace Medicine at Brooks AFB teaches a variety of readiness courses to medical personnel. Courses—such as Bioenvironmental Engineering, NBC Battlefield Nursing, Preventive and Aerospace Medicine contingency training, Global Medicine, Military Tropical medicine, Medical Survival training, plus many others—are provided at the San Antonio, TX base.

5.4.4 Navy CBR Defense Professional Training

The Navy Construction Training Center Detachment at the U.S. Army Chemical School offers two courses of instruction for Navy Chemical, Biological and Radiological Defense

(CBR-D) specialists. The courses are open to Navy, Coast Guard, Military Sealift Command, and foreign military personnel, E-5 and above. Courses are designed to provide both afloat and ashore commands with individuals who can successfully perform their requisite duties in a CBR contaminated environment. In addition, the training enables CBR-D specialists to act as the primary CBR-D trainers for their respective commands.

The training capitalizes on the unique capabilities of the Army Chemical School. In addition to classroom instruction, the Navy Detachment utilizes the CDTF for live agent training and the Bradley Radiological/Laser Laboratory for training in theory and equipment operation for radiological defense. Approximately 200 students graduate annually from the Detachment's courses. In addition to being fully qualified to conduct training using the Army's facilities, the Navy Detachment actively participates as part of the Joint Training Council (JTC).

In addition to CBR-D Specialist courses conducted at the US Army Chemical School, the Navy has incorporated CBR-D readiness training into courses that are attended by personnel at all levels of professional development.

Course Name	**Course Location**
Recruit Training CBR-D	Naval Training Center Great Lakes, IL
Damage Control "A" School	Naval Training Center Great Lakes, IL
Senior Enlisted Damage Control	Fleet Training Center San Diego, CA
Hospital Corpsman "A" School	Naval Training Center Great Lakes, IL
Independent Duty Corpsman	Naval School of Health Sciences San Diego, CA and Naval School of Health Sciences Portsmouth, VA
Management of Chemical Casualties	U.S. Army Medical Research Institute for Chemical Defense, Aberdeen Proving Ground, MD
Medical Affects of Ionizing Radiation	Armed Forces Radiobiology Research Institute Bethesda,MD
Radiation Health Indoctrination	Naval Undersea Medical Institute Groton, CT
Radiation Health Officer	Naval Undersea Medical Institute Groton, CT
CBR-D Command Center	Naval Construction Training Center Gulfport, MS
CBR-D Personnel Protection	Naval Construction Training Center Gulfport, MS
CBR-D Team Training	Naval Construction Training Center Gulfport, MS and Naval Construction Training Center Port Hueneme, CA
Repair Party Leader	Fleet Training Center San Diego, CA Norfolk, VA Mayport, FL Ingleside, TX Pearl Harbor HI Yokosuka, Japan
Repair Party Officer Short Course	Surface Warfare Officers School Newport, RI
Division Officer	Surface Warfare Officers School Newport, RI
Damage Control Assistant	Surface Warfare Officers School Newport, RI
Department Head	Surface Warfare Officers School Newport, RI
Executive Officer	Surface Warfare Officers School Newport, RI
Commanding Officer	Surface Warfare Officers School Newport, RI

5.4.5 Marine Corps NBC Defense Professional Training

The Marine Corps NBC Defense School at Ft. McClellan consists of an Enlisted Basic NBC Defense Course, and an Officer Basic NBC Defense Course. In addition to the courses conducted by the Marine Corps NBC Defense School, Marines attend three other functional courses (Chemical Officer Advanced Course, NBC Reconnaissance Course, and the Radiological Safety Officer Course) conducted by the Army Chemical School.

The USMC Enlisted Basic NBC Defense Course trains approximately 200 NBC specialists in a comprehensive 10 week program covering all the ITSs specified in MCO 1510.71. The curriculum includes 108 hours of instruction on how to conduct NBC training. This training provides Marines with the tools they will need on a daily basis as they perform their primary peacetime mission of conducting NBC Defense training to their units. The course is divided into six blocks of instruction as shown in Figure 5-5.

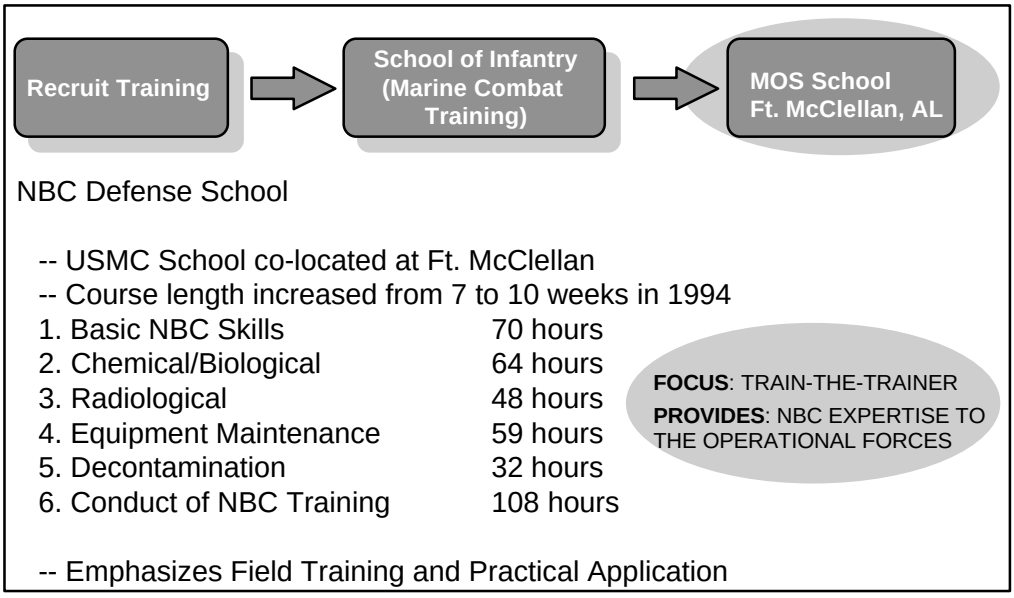

Figure 5-5. USMC Individual Training (Enlisted NBC Specialists)

Training For NBC Officers. Establishment of a Marine Corps Basic NBC Officer Course is complete. This course, shown in Figure 5-6, provides the requisite NBC skills to newly selected Marine Corps NBC Defense Officers. The first course will begin began in June 1997. All Marine NBC Officers are Warrant Officers, usually selected from NBC Defense specialist enlisted ranks. As Warrant Officers, they focus entirely on technical expertise, NBC Defense training, and supervision of enlisted NBC Defense specialists. In the past, Warrant Officers relied on the training they had received as enlisted NBC Defense Specialists and on-the-job training. However, the new NBC Defense Officers Course will be focused specifically towards Warrant Officers and will build on previous training received. NBC Officers also attend the Army's Chemical Officer Advanced Course and Joint NBC courses as part of advanced Military Occupational Specialist (MOS) training.

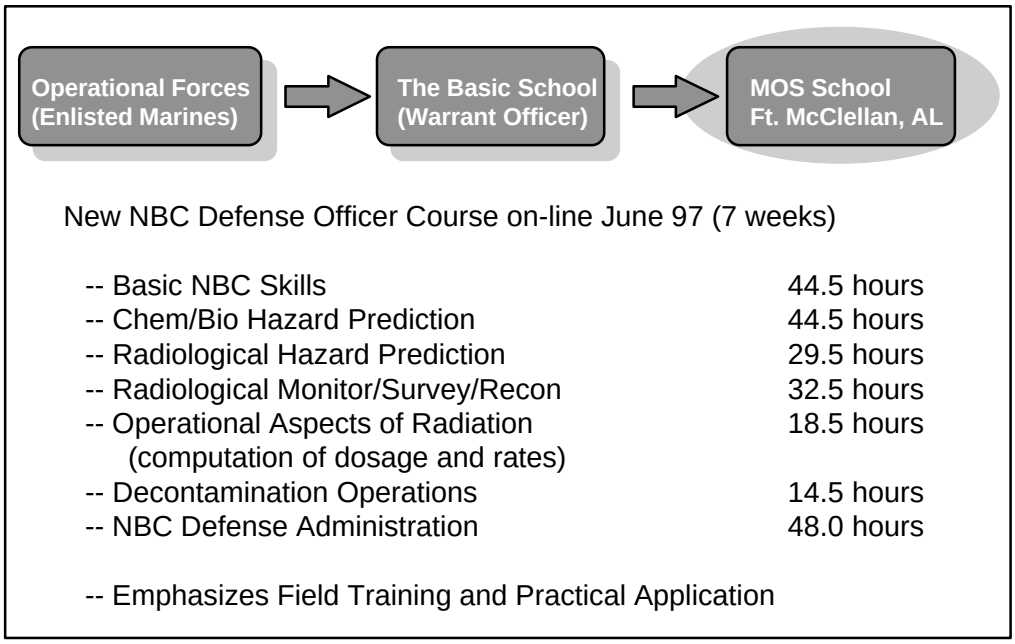

Figure 5-6. USMC Individual Training (Training for NBC Officers)

5.5 TRAINING IN A TOXIC CHEMICAL ENVIRONMENT

In 1987 the Army established the Chemical Defense Training Facility (CDTF) at Fort McClellan, Alabama. (A discussion of the transfer of the CDTF from Fort McClellan to Fort Leonard Wood is provided in Section 5.3.1 above.) The CDTF allows personnel to train in a real toxic agent environment. Since its opening, the Army has used this valuable resource to train over 47,000 U.S. and Allied members from all Services. Training philosophy demands that the military train the way it fights. The CDTF promotes readiness by providing realistic training in the areas of detection, identification, and decontamination of chemical agents. The training develops confidence in chemical defense tactics, techniques, procedures, and chemical defense equipment. Instructors ensure that trainees can adequately perform selected tasks on a chemically contaminated battlefield. To date, the CDTF has maintained a perfect safety and environmental record.

Enrollment at the Joint Senior Leaders Course and the Toxic Agent Leader Training Course at Fort McClellan continues to be in demand. Over 1,200 active and reserve commanders, service leaders, and toxic agent handlers from each of the services have attended. These personnel become very familiar with NBC considerations. In addition to this training opportunity, toxic chemical environment training provides senior officers, commanders, and future specialists confidence in their doctrine, warfighting techniques, and the equipment they fight with in the face of challenges presented by NBC contamination.

There is growing international interest in CDTF training participation. Germany has been taking advantage of this training opportunity for about six years. The United Kingdom now uses this facility for training. Law enforcement agencies and other first responder-type agencies have also participated in the training.

5.6 INTEGRATION OF REALISM/WARGAMES/EXERCISES

5.6.1 Simulations and Wargames

Incorporation of NBC features into relevant simulations, including portrayal of NBC weapons effects is essential. Currently, there are several engineering level models available that represent the fluid dynamics of NBC contamination. However, relatively few robust representations of NBC effects have been fully implemented in wargames and analytical models used by DoD. The Concepts Evaluation Model (CEM), used by the Army Concepts Analysis Agency, captures NBC effects off-line. Corps level models such as Vector-In-Command (VIC) and Division models such as Combined Arms and Support Task Force Evaluation Model (CASTFOREM) have some NBC capabilities that must be continually improved. JANUS, a division BDE level model, also has some NBC capabilities that are being improved and updated. Force Evaluation Model (FORCEM) has been modified for theater level effects. The configuration controlled version of Tactical Warfare (TACWAR) has within it a chemical module for theater level chemical effects that is under examination by the Joint Staff and OSD for its ability to accurately model the effects of chemicals on a theater level war.

Incorporation of NBC features in relevant models, including faithful portrayal of CB aerosolization and electromagnetic pulse (EMP) effects is essential. The incorporation of CB weapons into Janus-A for the Louisiana Maneuvers (LAM) and the ongoing iteration of the Army's Total Army Analysis (TAA) process using FORCEM, mark the first time major decisions have considered CB weapons as a part of the standard battlefield. ACES, an Air Force Command Exercise System, is a family of joint wargames which currently has robust nuclear simulations with chemical and biological planned for the near future. All existing models need to be modified in the biological area. To date, there has been limited model modification for biological effects except for the current modifications ongoing to Janus.

Each of the services conducts wargames, which incorporate NBC in the scenarios, in their respective senior level service schools. The Joint Land, Aerospace, and Sea Simulation (JLAS), a joint exercise with all the senior service schools participating, and hosted by the Air Force Wargaming Center at Maxwell AFB, Alabama, incorporates electronic simulation of the NBC environment. EUCOM conducted AGILE LION 97 exercise in a Marine led JTF that dealt with a nuclear reactor accident humanitarian assistance operation in Lithuania. The Navy has conducted a Naval Battle Analysis to provide a tool to analyze the effects of CB agents on Naval operations and permit the incorporation of realistic assessments of CB warfare effects into Naval wargames. As a result, the Vapor, Liquid, and Solid Tracking (VLSTRACK) Model has been integrated into selected wargames and demonstrated to participants. In conjunction with the U.S. Army Center for Army Analysis (CAA), USANCA sponsored ATOMIUM 97, a NATO Partnership for Peace (PfP) political military game involving low-level radiation which included the participation of PfP nations and Russia.

Current training exercise gaming simulations have not received sufficient funding to adequately portray and challenge commanders and staffs to apply NBC defense training doctrine

and leader-development training strategies to prepare their forces to maintain operational continuity and achieve mission success in an NBC and smoke/obscurant environment. To be an effective training mechanism, these simulations must challenge training audiences to understand adversaries' NBC intent and capabilities. Simulations must also allow players to visualize how NBC capabilities affect the battlespace, friendly courses of action, and operation plans. Additionally, effective simulations must allow players to apply NBC defense principles and capabilities to set conditions for mission success against NBC capable threats. Gaming simulations (Joint Simulation, Warfighter Simulation 2000, and Combined Arms Tactical Trainer) are being developed that will accurately replicate the NBC hazards and smoke conditions of future battlefields and their effects on friendly systems. Only then can commanders and staffs train and develop required high order battlefield cognitive skills that will allow full integration of enemy intent and capabilities, NBC environment effects, and friendly force capabilities into the development of a winning plan.

There is currently no standardized instrumentation system (IS) that can realistically portray all facets of Nuclear, Biological and Chemical training to train the total force. The U.S. Army Chemical School is developing NBC Recon training devices for the detection and tracking of simulated NBC contamination at Maneuver Combat Training Centers (CTCs) and home station training areas. Proposed training IS will retrieve, process, and calculate digital contamination data for maneuver units and will also include AAR feedback in the areas of NBC casualties, change of custody, and reaction procedures during NBC attacks and operations. This IS would provide a realistic replication of NBC contamination as portrayed on the battlefield. Resourcing will be pursued to field proposed training devices at CTCs and other locations.

5.6.2 Joint NBC Training/Joint and Combined Exercises

Chairman of the Joint Chiefs of Staff (CJCS) Exercise Program. Joint NBC defense training objectives must be incorporated into the CJCS Exercise Program. This program includes three different types of exercises:

(1) **Positive Force** (PF) exercises are large scale Command Post Exercises that normally consider national level issues such as mobilization and deployment. During PF 98 (Mobilization) and PF 99 (Deployment), Atlantic Command (ACOM), in its role as the force provider, ensures that deploying units and personnel are certified as combat ready. Although an integral part of this certification procedure is determining unit, personnel, and equipment operational readiness under NBC conditions, ACOM is not adequately staffed or organized to perform this certification.

(2) **Positive Response** (PR) exercises normally consider strategic level nuclear issues. In addition to considering command and control of nuclear forces, these exercises deploy and backup national command and control personnel and systems annually. Capabilities of these redundant systems are equally applicable during chemical and biological scenarios as they are during nuclear scenarios, but chemical and biological scenarios are not adequately exercised.

(3) The **No-Notice Interoperability Exercise (NIEX)** program continues to focus on our ability to interdict the proliferation of nuclear, chemical, and biological weapons. In

1995, the NIEX required the interagency process to respond to a foreign nation's request to interdict and recover three stolen nuclear weapons. National level forces were deployed in response to this crisis. The 1996 NIEX tested our nation's ability to respond to a crisis involving biological weapons. The Chairman of the Joint Chiefs' 1998 requirement for immediate action on WMD and NBC defense operations mandates integration of these topics into all futures NIEXs.

Joint Vision 2010 provides the operational based templates for the evolution of our Armed Forces to meet challenges posed by an adversary's use of weapons of mass destruction. JV 2010 serves as the Doctrine, Training, Leader-development, Organization, and Material requirements (DTLOM) benchmark for Service and Unified Command visions. The NBC defense cornerstone resource for this vision of future warfighting embodies three required operational imperatives:

First, and most importantly, CJCS and Service leaders should recognize that NBC strategic and operational level of war expertise is an essential resource requirement in the Joint Warfighter Center (JWFC) and USACOM Joint Training and Analysis Center (JTASC). Success for Joint Vision 2010, a strategy centered on capabilities-based forces, requires these organizations to successfully accomplish their respective joint NBC defense doctrine, training, and leader development roles, and for USACOM to accomplish its NBC defense mission as force provider, force trainer, and force integrator. NBC expertise at all levels and from all Services is paramount.

Second, Unified Commands should staff their organization appropriately with the right expertise to meet current and future requirements to shape and respond to NBC challenges.

Third, doctrine, training, and leader-development training strategies should facilitate sophisticated battlefield visualization and situational awareness proficiency, allowing commanders and staffs to conduct service, joint, and combined operations in an NBC environment.

The Chairman of Joint Staff published Master Plan Exercise Guidance in May 1998. This guidance provides exercise objectives to the CINCs. This guidance provided specific counterproliferation objectives. NBC Defense and Force Protection were identified as the Chairman's top training issues. This guidance will influence and guide development of CINC exercises and training, which will be conducted in Fiscal Year 2000.

Army. The Army emphasizes integration of NBC defense training in unit rotations at the Combat Training Centers (CTCs). These centers include the National Training Center (NTC), Joint Readiness Training Center (JRTC), the Combat Maneuver Training Center (CMTC), and the Battle Command Training Program (BCTP).

The Army continues to see negative NBC training trends at the company, battalion, and brigade level. This inferior performance at the CTCs is directly attributable to the lack of homestation NBC training. These results clearly indicate that there is a dire need to educate

senior leaders on influencing homestation training through providing command emphasis *and* dedicated resources to conduct NBC training. Conversely, units that (1) have the necessary command support and equipment, (2) balance NBC within their overall training requirements, and (3) execute according to approved training plans, are able to survive and continuously operate in a simulated NBC environment. However, increasingly constrained training resources limit NBC training to fundamentals. This often means training consists only of NBC survival and not training for continuous operations in an NBC environment.

Air Force. NBC warfare defense preparedness is an integral part of periodic Operational Readiness Inspections conducted by MAJCOM Inspectors General. Realism is injected into these scenarios using a simulated wartime environment including the use of bomb simulators, smoke, and attacking aircraft. Personnel are tasked to perform war skills while in their full complement of protective equipment. Additionally, Air Force units participate in major joint and combined exercises that incorporate realistic NBC situations. Following are examples that describe exercises incorporating NBC situations:

- TEAM SPIRIT - Pacific Air Forces (PACAF) Joint/combined large-scale air, sea, land exercise to demonstrate US resolve in South Korea.
- ULCHI FOCUS LENS - PACAF Joint/combined command and control exercise conducted in conjunction with the Republic of Korea's national mobilization exercise "ULCHI."
- FOAL EAGLE - PACAF Joint/combined rear area battle and special operations field training exercise.
- EFX – Air Combat Command sponsored expeditionary force projection exercise.

Navy. Due to the unique nature of Naval force deployments, CBR defense training is conducted whether platforms are operating independently or in a group. During scheduled CBR defense training periods, realism is stressed and CBR defense equipment is used extensively.

Naval units conduct basic, intermediate, and advanced training CBR-D exercises prior to deployment. During the basic training phase, CBR-D training exercises are overseen by the appropriate Type Commander and may involve additional unit training by CBR-D specialists from Afloat Training Groups (ATG). During the intermediate and advanced phases of the training cycle, combat readiness is reinforced through Composite Training Unit Exercises (COMPTUEXs) and Fleet Exercises (FLEETEXs).

The exercises conducted by deploying Battle Groups and Amphibious Readiness Groups during pre-deployment Composite Training Unit Exercises and Fleet Exercises are designed to meet CINC training requirements for forces in the deployment area of responsibility.

Naval CBR-D scenarios are also incorporated into the "Global" Wargame conducted annually at the Naval War College in Newport, RI. The CBR-D scenarios addressed at "Global" are directed at strategic decisionmakers and National Command Authorities.

Marine Corps. The Marine Corps incorporates NBC training into combined arms exercises at the Marine Corps Air Ground Combat Center in Twenty Nine Palms, California. Battalion level unit exercises are also conducted during Korea and Thailand Incremental Training Programs where units deploy and exercise various tasks. Like the Air Force and Army, the Marine Corps also participated in major joint/combined exercises. Mission, threat, and task organization determine the level. During FY98, the Marine Corps incorporated NBC defense training into the following exercises:

- JTF Exercise United Endeavor
- Ulchi Focus Lens 98
- Foal Eagle
- IMEFEX
- Keystone 98
- Global 2000
- Bio 911
- Azure Haze
- Urban Warrior
- ChemWar 2000
- Brave Knight
- Agile Lion

It should be noted that all Marine Corps units must also conduct quarterly NBC exercises. Evaluations include operational, administrative, and logistical functional areas. These exercises incorporate realistic NBC defense training into the exercise scenario to enhance the value of the exercise.

5.7 INITIATIVES

5.7.1 Joint

Doctrine. Initiatives in Joint NBC defense doctrine are detailed in section 5.2.

Modeling. At the request of the Deputy Assistant Secretary of Defense for Counterproliferation and Chemical and Biological Defense, DATSD(CP/CBD), the JSIG has established a Commodity Area (CA) for CB M&S and appointed the Navy to be the lead service. Unlike other commodity areas, which manage advanced development programs, the M&S CA will primarily develop joint requirements, identify funding requirements to improve training and doctrine development, and promote standardization.

To support the M&S CA, the JSIG has tasked a contractor to develop a CB M&S Master Plan. When completed and approved, the plan will form the basis for future M&S R&D conducted by both the JSIG and JSMG. Initial findings from the Master Plan will be used to refine the M&S portion of the Modernization Plan in the second quarter FY99.

The DATSD(CP/CBD) has initiated a study to evaluate the suitability of VLSTRACK and HPAC for operational analysis. A study advisory group has been formed to evaluate the study and recommend how to consolidate the capabilities of the two models into a single system and reduce future duplication of developmental effort.

The Counterproliferation Review Council (CPRC) V&V Standards Working Group will be initiating a process in FY99 to standardize the V&V of CB models. This effort should

improve overall V&V activities, allow model-to-model comparisons and simplify eventual accreditation for various applications.

JCATS, JWARS and JSIMS are the future joint models for constructive and virtual combat simulation for training and analysis applications. Plans to incorporate CB defense effects into these models were initiated in FY98. VLSTRACK has been loosely coupled to JCATS to demonstrate the ability to add high resolution CW effects. The JSIG will be funding the continuation of this effort in FY99 and beyond. A contractor has been tasked by the JWARS program office to develop a plan for incorporating CB effects into JWARS.

The JSMG is sponsoring a program to develop models to evaluate effects of CB defense at APODS and SPODS.

Training.

5.7.2 Army

In an effort to refine doctrine and training, the Army is quantifying the impact of NBC environments on combat operations. Two programs have been executed to achieve this goal: (1) Combined Arms in a Nuclear/Chemical Environment (CANE), and (2) Physiological and Psychological Effects of the NBC Environment and Sustained Operations on Systems in Combat (P2NBC2). These Force Development Testing and Experimentation (FDTE) evaluations have improved our understanding of individual and unit operations and performance degradation while in MOPP. The CANE FDTE evaluations quantified field data that commanders can use for planning, training, and decision making to respond to the threat.

The Army, as proponent for CANE tests, has completed five field evaluations (mechanized infantry squad/platoon in 1983, tank company team in 1985, armor heavy battalion task force in 1988, light infantry forces in 1992, and air defense artillery in 1993). The Army has established the Chemical Vision Implementation Plan (CVIP) a systematic review process to ensure identified deficiencies are addressed and corrected. The Commandant of the Army's Chemical School reviews the CVIP annually. Army field manuals are then revised to address deficiencies identified in CANE tests.

Before CANE FDTEs were conducted, commanders' training in a simulated NBC environment had an indication of the degradation that MOPP places on their operations. They were aware that training could maximize proficiency, but they lacked the feedback to direct that training. Consequently, training was often sporadic and incomplete.

The Army is now implementing several training guidance improvements by:

- Providing heightened command emphasis to unit commanders on NBC threat with attention to Third World countries;
- Simulating NBC environments in training;
- Continuing emphasis and effort to integrate safe, realistic NBC defense in all training.

5.7.3 Air Force

The Air Force currently has three training and readiness initiatives underway and continues to improve its professional training.

The Civil Engineer Readiness Technical School implemented an advanced scenario-driven exercise in the CDTF revolving around a terrorism incident involving chemical munitions. This training is provided to advanced students and differs from the lock step training provided to Apprentice-level students. The scenario will be reviewed/revised annually during the respective course reviews. Air Force instructors are qualified to conduct joint classes at the CDTF and are fully integrated into CDTF operations. Readiness instructors lead Air Force students from five of six residence courses through the training and also assist the other services with their training requirements. Additionally, they provide an orientation of NBC defense concepts and live-agent training in the CDTF for key Air Force personnel during the semi-annual Joint Senior Leaders Course.

The school revised its courses of instruction effective October 97 to comply with changes to the Specialty Training Standard (STS) resulting from the Readiness Utilization and Training Workshop held in October 1996. The new STS requires Readiness students and personnel be highly qualified in chemical-biological warfare operations, including conducting and advising leaders on hazards analysis and the use of emerging detection and plotting technologies.

Air Force Readiness personnel enrolled in correspondence courses for upgrade training to the five skill level will soon be able to complete the course on interactive CD-ROM including full motion-video and sound. The course is presently available only in a paperback version, which will continue to remain available for a limited period after the CD-ROM release. Interactive courseware development began in FY97 and is expected to be completed by FY00.

The Air Force NBC Ability to Survive and Operate (ATSO) Working Group (WG) (IPT) is a cross-functional forum that identifies and tracks AF NBC defense action items. Current NBC defense training initiatives tracked by the WG include the following:

- Implement a chem-bio protective mask quantitative fit training (QNFT) program to maximize protection by ensuring personnel attain the best fit possible
- Enhance Civil Engineer Squadron Commanders Course to put more emphasis on NBC defensive operations; provide an overview of Air Force Manual (AFMAN) 32-4019, *Chemical-Biological Warfare Commander's Guide*, to include the Vulnerability Assessment Tool; and new consequence management (CM) requirements
- Enhance Air Force Group Commanders Course to include new CM requirements
- Enhance On-Scene Commanders Course to include new CM requirements
- Develop a multimedia training format for AFMAN 32-4019
- Develop AFMAN 32-4019 training for Readiness personnel
- Incorporate AFMAN 32-4019 training in Air Force SILVER FLAG training site curriculum

- Incorporate depleted uranium training in initial and refresher NBC defense training; NBC readiness training plans (RTPs) have been revised and depleted uranium awareness is beginning to be taught at AF installations
- Provide robust DU training to personnel who have a greater risk of exposure to DU on the battlefield; AF special operations personnel are reviewing functional pipeline courses and evaluating new DU training requirements in the NBC RTPs
- Enhance AF NBC defense unit training to allow for increased emphasis on NBC defensive posture during unit training.

Additionally, the AF Medical Service has developed, or is in the process of developing, NBC Defense Training contract SOWs for eleven initiatives. Paragraph 5.3.2 lists all eleven. All are being managed by HQ AETC/SGP and HQ USAF/SGX.

5.7.4 Navy

The Navy's main initiative is the integration of CBR-D requirements in the tactical training strategy. These requirements are executed via the interdeployment training cycle's aggressive training and material readiness program. Additionally, the supplemental funds made available from the FY96 National Defense Authorization bill have been utilized to upgrade existing training aids and delivery of training support equipment to all units.

Additionally, the Navy's basic NBC defense course has been incorporated in both officer and enlisted accession training curriculums. In conjunction with this initiative, the same course taught at the fleet training centers has been restructured to improve throughput. The Navy Environmental Health Center, Norfolk, Virginia, is in the process of implementing a training and consultation team at the Navy Environmental and Preventive Medicine Unit (NEPMU) #2 in Norfolk, Virginia and NEPMU#5 in San Diego, California. These teams will provide Navy Medical Department personnel with the training and consultation necessary to ensure effective medical management of casualties caused by chemical, biological, radiological, and environmental (CBRE) exposures.

The Navy is also working to improve Joint CBR Defense Doctrine. The Navy is actively supporting a Joint Service Integration Group (JSIG) and Air Land Sea Application Center (ALSA) initiative to streamline the development of multi-service CBR-Defense tactical publications. The implementation of the JSIG/ALSA process in FY99 will provide a method for implementing service specific CBR-D requirements into Tactical Training Publications used by all services.

5.7.5 Marine Corps

During FY98 the Marine Corps Chemical Biological Incident Response Force (CBIRF) continued to refine its tactics, techniques, and procedures to respond to the growing biological and chemical terrorist threat. The CBIRF was activated April 1, 1996 and has deployed to the Olympics in Atlanta, the Presidential Inauguration, the Summit of Eight Conference in Denver, Colorado, two State of the Union Addresses, the Papal Visit to St. Louis, and numerous other

exercises to include Agile Lion, Bold Endeavor, and Ill Wind. A CBIRF detachment was deployed in support of Operation DESERT THUNDER. The CBIRF was a primary participant in both the BIO-911 Advanced Concept Technology Demonstration (ACTD) and the Port and Airfield ACTD.

National Asset Activated 1 April 1996

-- Provides an operational force to rapidly respond to WMD incidents
-- Tests New Equipment, Procedures, and Techniques
-- Provides Consequence Management training to Marine Forces through Mobile Training Teams
-- Assists Unit/Facility Vulnerabilities to Enhance Force Protection Planning
-- Works with other Emergency Response Agencies

FORCE MULTIPLIER FOR THE MAGTF.

Figure 5-7. Chemical/Biological Incident Response Force (CBIRF) Role in Training

The CBIRF focuses on consequence management to terrorist-initiated NBC incidents. The CBIRF is a national asset, to be globally sourced to Marine Force Commanders and National Command Authority for duties as the President may direct. The CBIRF consists of 360 skilled and trained Navy and Marine personnel, organized into five elements: Headquarters (including a Reach-Back Advisory Group), Security, Search and Rescue, Service Support, Force Protection (Reconnaissance/Decontamination) and Medical. The CBIRF has state-of-the-art detection, monitoring, medical and decontamination equipment and is prepared for operations in a wide range of military-civilian contingencies. In addition to the CBIRF's capabilities to respond to chem/bio incidents it serves as a training asset to the operational forces. The CBIRF will provide mobile training teams to various units to provide advanced consequence management. This will provide operational forces with the most up-to-date techniques, tactics, and procedures developed by the CBIRF. CBIRF also assists in Unit/Facilities Vulnerability Assessments to enhance force protection. The bottom line is that the CBIRF serves as a force multiplier to the MAGTF.

Marine Corps FY98 Accomplishments:

- Revised Marine Corps NBC Specialist Individual Training Standards (ITS), (MCO 1510.71) on 5 August 98.
- Conducted a Marine Corps-wide Table of Equipment and Table of Organization Review.
- Participated in Joint Marine Corps and Navy shipboard decontamination exercises with 7th Fleet.
- Developed an Enhanced NBC Capability Set for MEUs.
- Developed and initiated CBIRF training packages for MEUs.

- Published MCWP 3-37, *MAGTF NBC Defense*, September 1998.
- Conducted and managed the Joint Service Mask Surveillance and Testing Program.

Marine Corps FY99 Initiatives:

- Integration of NBC defense procedures in Mission Oriented Tasks (Garrison and Field).
- Conduct USMC NBC Defense Course Content Reviews based on revised ITSs and emerging NBC equipment requirements.
- Continue development of USMC NBC Staff Planning follow-on course, a training course to prepare NBC defense officers and NCOs to assist in the staff planning process.
- Establishment of combat training package for ISMs for reserve forces and follow-on forces in the event of hostilities involving an NBC threat.
- Continued Annual Joint Marine Corps and Navy shipboard decontamination exercises with 7th Fleet.
- Continue participation in a bilateral exchange program with the Republic of Korea (ROK) Chemical Corps.
- Conduct Front End Analysis for an NBC SNCO Advanced Course.
- Continue development of an "Enhanced NBC" capability for MEUs.

5.7.6 Emergency Response: Army Medical Response

The AMEDD continues to be involved in supporting DoD and federal counterterrorism initiatives and contingency operations related to NBC threat agents, mainly with elements of the Medical Research and Materiel Command (MRMC). The following offices and agencies have required AMEDD assistance: DoD SO/LIC, J4 Medical Readiness, U.S. Army Technical Escort Unit, US Department of State, Federal Bureau of Investigation, Department of Health and Human Services, Office of Emergency Preparedness, and the U.S. Marine Corps CBIRF.

The U.S. Army has recently published AR 525-13, Antiterrorism Force Protection (AT/FP): Security of Personnel, Information, and Critical Resources from Asymmetric Attacks, dated 10 September 1998. From this regulation it is assumed that U.S. Army medical treatment facilities and clinics will be called upon to provide assistant to civilian first responders if a WMD terrorist act occurs and to provide emergency room and inpatient treatment for both eligible DoD beneficiaries and civilian casualties. This regulation specifically states that the Surgeon General (TSG) will:

a) Establish policy and guidance on the management and treatment of conventional and nuclear, biological, and chemical (NBC) casualties.
b) Coordinate emergency medical NBC response capabilities worldwide with other DoD, Joint, Federal, state, local and HN agencies.
c) Maintain medical NBC response teams to address nuclear, biological/emerging infection, chemical accidents/incidents worldwide
d) Provide chemical and biological analysis of biomedical samples from patients/decease to assist in the identification of agent(s) used against U.S. personnel.
e) Provide guidance on the vaccination and prophylaxis against biological warfare agents.

The Office of the Surgeon General is currently updating Army Regulation 40-13, Nuclear/Chemical Accident Incident Response, to include all medical teams which could potentially be available to support civil authorities in the event of a terrorist attack with Weapons of Mass Destruction (WMD). The regulation will also include the Army policy for fixed facility medical treatment facilities in support of local domestic first responders.

The AMEDD has formed Specialty Response Teams (SRTs). These teams provide a rapidly available asset to complement the need to cover the full spectrum of military medical response—locally, nationally, and internationally. These teams are organized by USAMEDCOM subordinate commands; they are not intended to supplant TOE units assigned to Forces Command or other major commands. The regional medical commands (RMCs), the United States Army Center for Health Promotion and Preventive Medicine (USACHPPM), and the US Army Medical Research and Materiel Command (USAMRMC) commanders organize SRTs using their table of distribution and allowances (TDA) assets. These teams enable the commander to field standardized modules in each of the SRT areas to meet the requirements of the mission. Members of the US Army Reserve (USAR) may be relied upon to provide a variety of functions in support of the various SRT missions. All SRTs will be capable of deploying within 18 to 24 hours of notification. The two SRTs that can support NBC are the Special Medical Augmentation Response Team – Preventive Medicine (SMART-PM) and the Special Medical Augmentation Response Team – Chemical/Biological (SMART-CB).

The mission of the SMART-PM is to provide initial disease and environmental health threat assessments. This is accomplished prior to or in the initial stages of a contingency operation, or during the early or continuing assistance stages of a disaster. The SMART-PM can:

- Perform on-site initial health threat assessments, limited and rapid hazard sampling, monitoring, and analysis, health risk characterization, and needs assessment for follow-on PVNTMED specialty support in the AO.
- Prepare PVNTMED estimates.
- Perform analysis of, but not limited to--
  - Endemic and epidemic disease indicators within the AO.
  - Environmental toxins related to laboratories, production and manufacturing facilities, nuclear reactors, or other industrial operations.
  - Potential NBC hazards.
- Provide medical threat information and characterize the health risk to deployed forces or civilian populations.
- Provide guidance to local health authorities on surveying, monitoring, evaluating, and controlling health hazards relative to naturally occurring and man-made disasters.
- Assist local health authorities in surveying, monitoring, evaluating, and controlling health hazards relative to naturally occurring and man-made disasters.

In general, the SMART-PM team provides augmentation and public health and environmental engineering expertise in the following areas:

(1) ISO 9000 Accredited Laboratories
(2) Environmental Health
(3) Epidemiology & Disease Surveillance
(4) Toxicology
(5) Entomology
(6) Health Physics (Nuclear/Radiological)
(7) Industrial Hygiene
(8) Water Quality
(9) Clinical Preventive Medicine
(10) Sanitation
(11) Solid & Hazardous Waste Management
(12) Food Service Sanitation

The Special Medical Augmentation Response Team – Chemical/Biological (SMART-CB) includes the following USAMEDCOM staffed assets: the National Medical Chem-Bio Advisory Team (MCBAT) at the USAMRMC, and the RMC Chemical/Biological SRTs. The National MCBAT is comprised of USAMRMC elements from the US Army Medical Research Institute of Infectious Diseases (USAMRIID) and the US Army Medical Research Institute of Chemical Defense (USAMRICD). These assets are Tier 1 elements of the DoD Chemical Biological Rapid Response Team (C/B-RRT) and are ready to deploy worldwide within 4 hours after receiving their orders. The RMC Chemical/Biological SRTs are trained medical teams located at the RMCs that can deploy in response to a chemical, biological, or radiological incident. Examples of incidents that may require a rapid response include:

- An accident involving the transport or storage of NBC weapons,
- The release of CW or BW agents or radiological material,
- A leak of an industrial chemical, infectious material, or radioactive material.

The National Chem-Bio Advisory Team is the principal DoD medical advisor to the Commander, C/B-RRT and the Interagency Response Task Force. Both the National MCBAT and regional Chemical/Biological SRT can provide medical advice and consultation to commanders or local medical and political authorities for preparation of a response to a threat or actual incident. They can also provide medical advice to commanders or local authorities on protection of first responders and other health care personnel, casualty decontamination procedures, first aid (for non-medical personnel) and initial medical treatment, and casualty handling. The initial advice includes identifying signs and symptoms of NBC exposure, first aid (self-aid, buddy aid, combat lifesaver aid for military personnel), and initial treatment when an incident has occurred. The NCBAT also assists in facilitating the procurement of needed resources.

The RMC Chemical/Biological SRT will conduct the initial response, and upon arriving at the incident site will determine the types and numbers of other responders required. The RMC Chemical/Biological SRT may, after initial assessment of the situation, elect to use telemedicine reach back or to call in domestic or foreign response assets organized at the national level. These response assets include the National MCBAT and the Aeromedical Isolation Team (AIT) from USAMRIID. The AIT is a highly specialized medical evacuation asset for the evacuation of limited numbers of contagious casualties, with lethal infectious diseases, or for consultation on appropriate management of such casualties in the event of a mass casualty situation.

The US Army Medical Research Institute of Chemical Defense (USAMRICD) has developed a Chemical Casualty Site Team (CSST) with the capability of rapid deployment in

support of DoD, the Foreign Emergency Response Team (FEST), or the Domestic Emergency Response Team (DEST). The team is tasked to support each specific mission. Personnel available for deployment consist of physicians, a nurse, toxicologists, veterinarians, and laboratory specialists. These personnel, when coupled with their supporting capabilities, are knowledgeable in the medical effects of a specific chemical warfare agent, identification of chemical agents or their metabolites in biological samples, determination of blood cholinesterase levels, technical and biomedical expertise required to enable protection of personnel responding to chemical incidents or to guide decontamination of personnel and causalities, and technical expertise to accomplish mission planning.

The AMEDD also provides assets to support the Chemical Biological Augmentation Team (CBAT), a 5-person chem/bio plug-in to the FEST or the DEST. We also provide two medical advisors as part of the SBCCOM Tier I CB Rapid Response Team (C/B-RRT) package. The AMEDD provides advisors to the CBRIF Reachback Scientific Advisory Group.

The US Army Medical Research Institute of Infectious Diseases (USAMRIID) has developed the capability to deploy an AIT consisting of physicians, nurses, medical assistants, and laboratory technicians who are specially trained to provide care to and transport patients with disease caused by biological warfare agents or by infectious diseases requiring high containment. USAMRIID's teams are deployable worldwide on a 12-hour notice using USAF transportation assets. The AIT uses specialized isolation units that maintain a contained environment under negative pressure to safely transport such patients and to provide medical care to them while in transit. Quarterly training missions are flown with the West Virginia Air National Guard.

As a supporting capability, USAMRIID has a 16-bed ward with the capability of isolating (up to Biosafety Level 3) patients with infectious diseases in a contingency situation. USAMRIID also has a special Biosafety Level 4 (highest level of containment) patient care area designed for a maximum of 4 patients requiring this level of containment. These patient care areas are capable of providing intensive care for critically ill patients with specialized personnel and equipment augmentation from Walter Reed Army Medical Center. An additional supporting capability at USAMRIID is its capacity for medical diagnostic assays for recognized biological agents.

5.8 READINESS REPORTING SYSTEM

CJCSI 3401.02, the policy document for the Status of Resources and Training System (SORTS) requires units from all Services to independently assess their equipment on hand and training status for operations in a chemical and biological environment. This is a change to previous SORTS reporting requirements and provides more visibility to NBC defense related issues.

The Services individually monitor their SORTS data to determine the type of equipment and training needing attention. Units routinely report their equipment on hand and training status for operations in a chemical or biological environment. Commanders combine this information

with other factors, including wartime mission, to provide an overall assessment of a unit's readiness to go to war.

Additionally, the Commanders-in-Chief (CINCs) of the Unified Commands submit readiness assessments at each Joint Monthly Readiness Review (JMRR). In the JMRR, CINCs assess the readiness and capabilities of their command to integrate and synchronize forces in executing assigned missions. As needed, CINCs address NBC defense readiness and deficiencies as part of the JMRR.

5.9 NBC DEFENSE TRAINING AND READINESS ASSESSMENT

ISSUE: **DoD lacks a mechanism to provide adequate information on the current status of training, equipment, and readiness. It needs adequate information to assess operational force capabilities from the Department and the warfighting CINCs' perspectives.**

SOLUTION: Assign consistent and higher priority to NBC defense, especially by the Joint Chiefs of Staff and the warfighting CINCs, in order to maintain an adequate state of readiness and to ensure NBC defense reporting information is accomplished in a timely and adequate manner. Adequately resource CJCS J-7 and CINC ACOM to ensure that WMD and NBC defense issues are integrated into all joint training exercises and that integration and training assessments are conducted by subject matters experts. Existing reporting systems may provide an adequate mechanism for assessing readiness if the assessments are formally performed by WMD/NBC defense subject matter experts.

ISSUE: **Joint NBC defense doctrine needs to be continually developed and include joint tactics, techniques, and procedures.**

SOLUTION: Initiatives began in 1987 to develop joint NBC defense doctrine which resulted in Joint Pub 3-11, *Joint Doctrine for Nuclear, Biological, and Chemical (NBC) Defense*. In FY95, efforts were initiated to update this document. The Joint Service Integration Group is responsible for assisting the U.S. Army in the development of this doctrine under sponsorship of the Joint Staff. Current initiatives with the Air, Land, Sea Application Center (ALSA) to revise and update NBC doctrinal publications is underway. Continued Service interaction and cooperation facilitated by these organizations will produce the next generation of Joint NBC Defense Doctrine.

ISSUE: **There are limited chemical and biological features in wargaming and planning models.**

SOLUTION: Funding to add chemical and biological warfare defense to joint simulations has been allocated by the JSIG M&S Commodity Area for FY99 and beyond. The program will focus on incorporating chemical effects into JCATS and JSIMS in FY99-00 and BW effects in FY00-01. To add CB defense capabilities to

OneSAF, the possibility of incorporating the CB-ModSAF model developed by SBCCOM will be considered.